

Busch Area Fish Health Bulletin 2006

The August A. Busch Memorial Conservation Area has historically been a hotbed of controversy over pollution and contaminants which were present on the area due to the areas' previous use for TNT production for World War II and uranium and thorium manufacture in the Weldon Spring vicinity from 1957 to 1966. The Missouri Department of Conservation (MDC) acquired the August A. Busch Memorial Conservation Area in 1947 and Weldon Spring Conservation Area in 1978. These two areas have been the location of multi-million dollar clean-up efforts by United State Department of Energy (USDOE) and contractors. Detailed information and reports of the history, clean-up and monitoring can be found at the website <http://www.em.doe.gov/wssrap/> or can be obtained from the interpretive center on the property at: WSSRAP Community Relations Department, 7295 Highway 94 South, St. Charles, Missouri 63304, Phone: 636-441-8086.

Other types of contaminants (e.g. mercury, lead, arsenic) which are not related to the USDOE clean-up efforts are present on the area in similar amounts as found in other Missouri lakes. Fish tissue samples are taken annually by MDC are included in the Missouri Department of Health and Senior Service's (DHSS) Fish Consumption Advisory. Fish samples taken from Busch Lakes and included in the 2006 Advisory showed safe levels of the contaminants including *chlordanes isomers, DDE, DDD, dieldrin, endrin, lead, beta HCH, cadmium*, and **PCBs** in species from the lake tested. The lakes chosen are from a subset of those most likely to find high levels of contamination and are picked to represent a worst case scenario. **Mercury** contamination is commonly found in Missouri and contamination levels vary depending on year and waterbody sampled. Mercury was found to be higher than the EPA water quality standard of 300 parts per billion (ppb) in Lake 35 in 2001 at 669 ppb and 2006 at 841 parts per billion. Lake 36 had 650 ppb in largemouth bass. Levels of mercury exceeding the EPA standard can be found in many lakes and streams including seemingly pristine areas such as the Current River and Eleven Point Rivers in which smallmouth bass have been found in excess of 600 ppb. Comparably, the FDA has reported mercury in tuna to exceed 1000 ppb or 1 part per million (mean level 320 ppb from 191 samples). The levels of mercury in largemouth bass, spotted bass and smallmouth bass statewide has lead the DHSS to issue a statewide fish consumption advisory for pregnant women, women of childbearing age, nursing mothers, and children under 12 for the consumption of these bass species. Specifically, the advisory warns this mercury sensitive segment of the population not to consume more than 1 meal per month of largemouth, spotted or smallmouth bass greater than 12 inches from any Missouri water. Because of this statewide advisory, additional mercury consumption warnings for the August A. Busch Memorial Conservation Area lakes would be redundant. For information on mercury and fish please contact Missouri DHSS (1-800-392-7245) <http://www.dhss.mo.gov/NewsAndPublicNotices/06FishAdvisory.pdf> or MDC at (573-882-9880).

Radiological contamination in fish and wildlife has been tested by USDOE, MDC, and independent labs. The amount of contamination has never been above action levels for consumption advisories and levels have been further reduced as a result of cleanup activities. Before and during the 1987 clean-up, exposure scenarios of consuming an average amount of fish was less than 1% of allowable limits from National Council of Radiation Protection from

1991-1993 values. For an overview of radiation and relative comparisons visit the WSSRP website <http://www.lm.doe.gov/documents/sites/mo/weldon/factsheets/radiation.pdf>. Fish samples taken by USDOE in 1998 were not statistically higher than those of previous years, so further monitoring was discontinued. In 2006, a group of fish samples were taken from Busch Lake 36 and processed for radiological content. Results of the analysis indicated that bass and catfish remain safe for unlimited consumption. For information on water and groundwater sampling contact <http://www.em.doe.gov/wssrap/> or call 636-441-8086.